

# BW #3

▶ Get out your cell organelle paper and prepare to take a few notes!

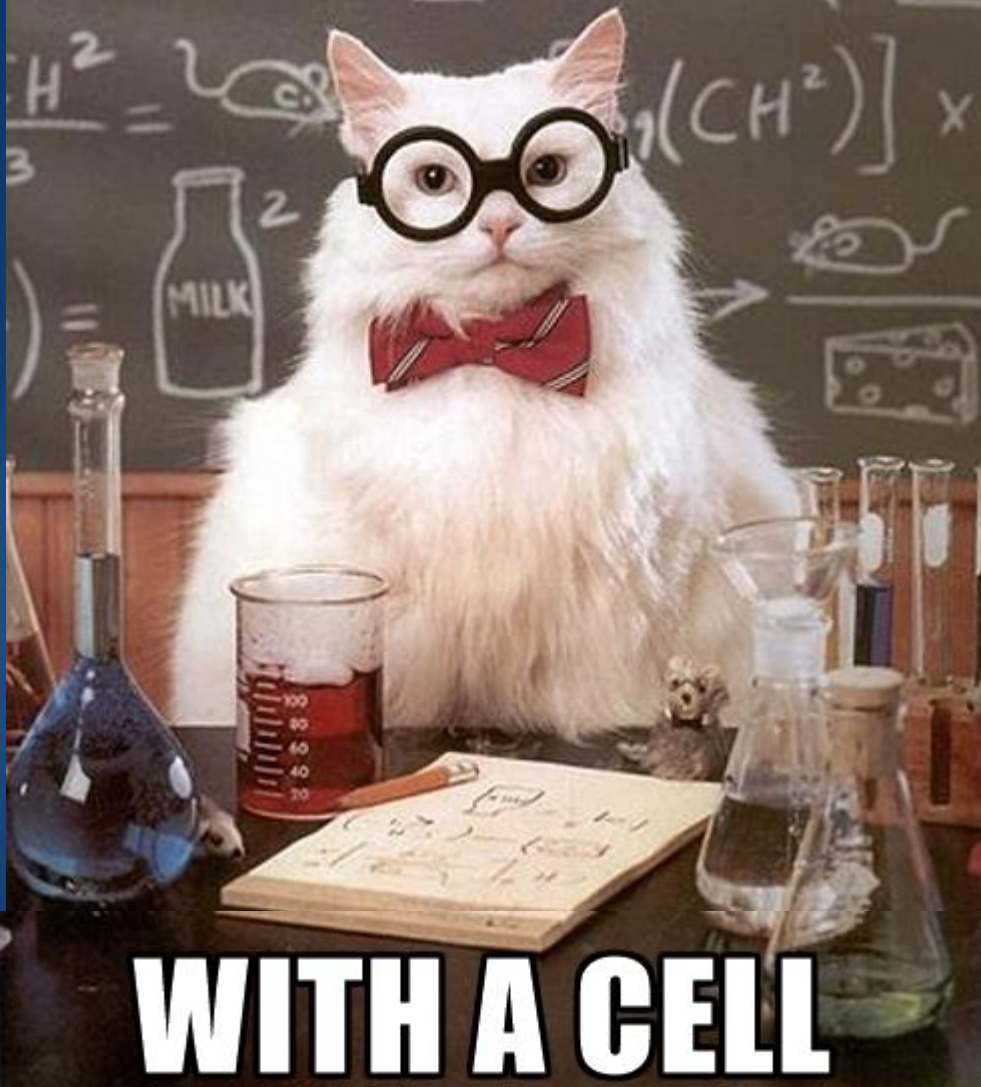


Use this chart to help you with your project.

### Organelles of the Cell

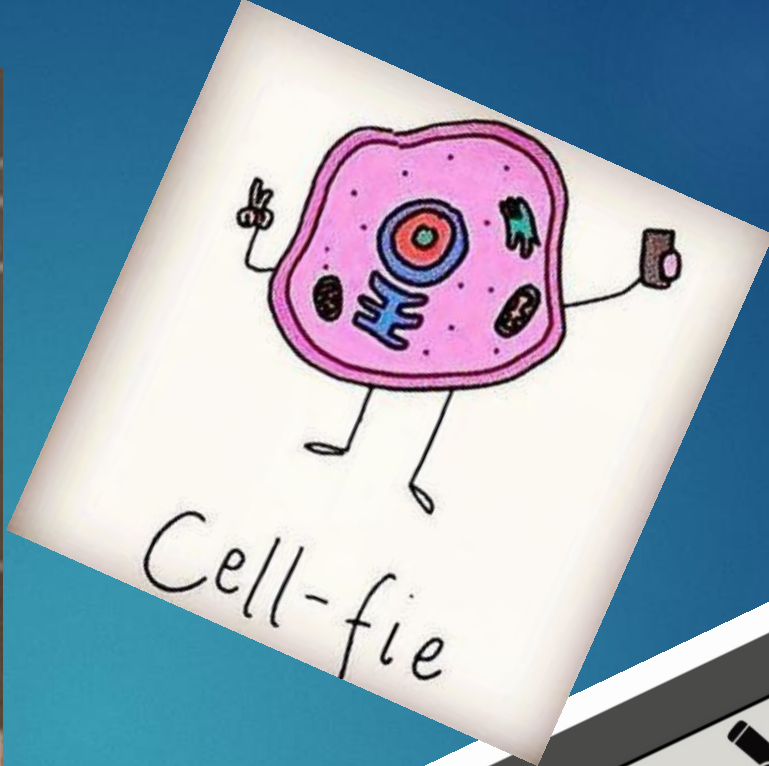
Cell Part	Function	Picture	Way to Remember (comparison)
Plasma Membrane (Cell Membrane)			
Cytoplasm			
Ribosomes			
Endoplasmic Reticulum			
Golgi Apparatus			
Mitochondria			
Lysosomes			
Vacuole			
Chromatin/Chromosomes			
Nucleus			
Nucleolus			
Centrioles (animal cell only)			
Flagella/Cilia (animal cell only)			
Cell Wall (plant cell only)			
Chloroplasts (plant cell only)			

HOW DOES A SCIENTIST CALL HIS FRIENDS?



WITH A CELL

memegenerator.net



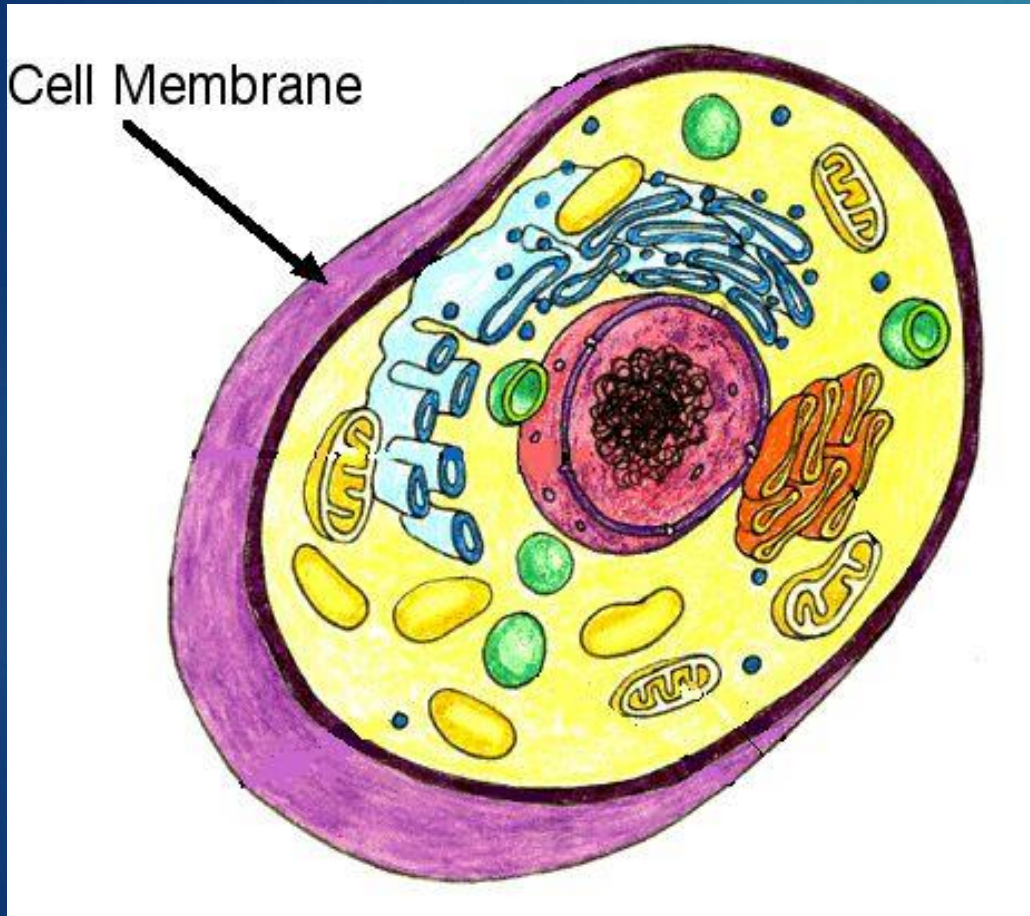


# Cell Organelles

WHAT THEY ARE, WHERE THEY'RE FOUND AND WHAT THEY DO...



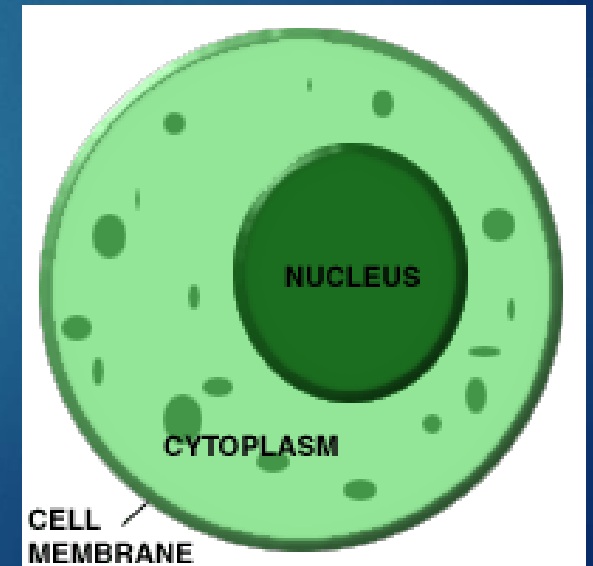
# Cell Membrane:



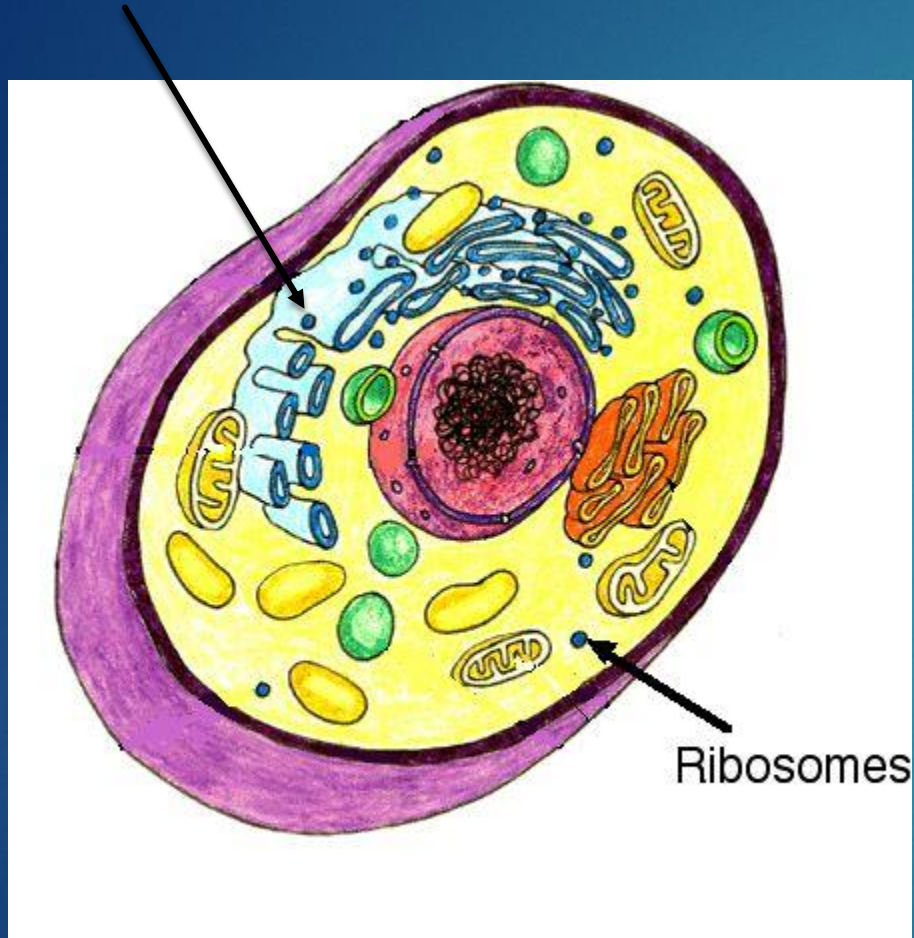
- ▶ **The cell membrane helps move things into and out of the cell:** things such as ions, hormones, water, food and waste products.
- ▶ Like a:
  - ▶ Door
  - ▶ Gate
  - ▶ Window

# Cytoplasm:

- ▶ This is the jelly-like **fluid that makes up the inside of the cell** and holds all of the organelles. Many chemical reactions occur within the cytoplasm
- ▶ It is made up mostly water but it is full of proteins that help control a our cell reactions.
- ▶ Like-
  - ▶ Jelly in a doughnut



# Ribosomes:

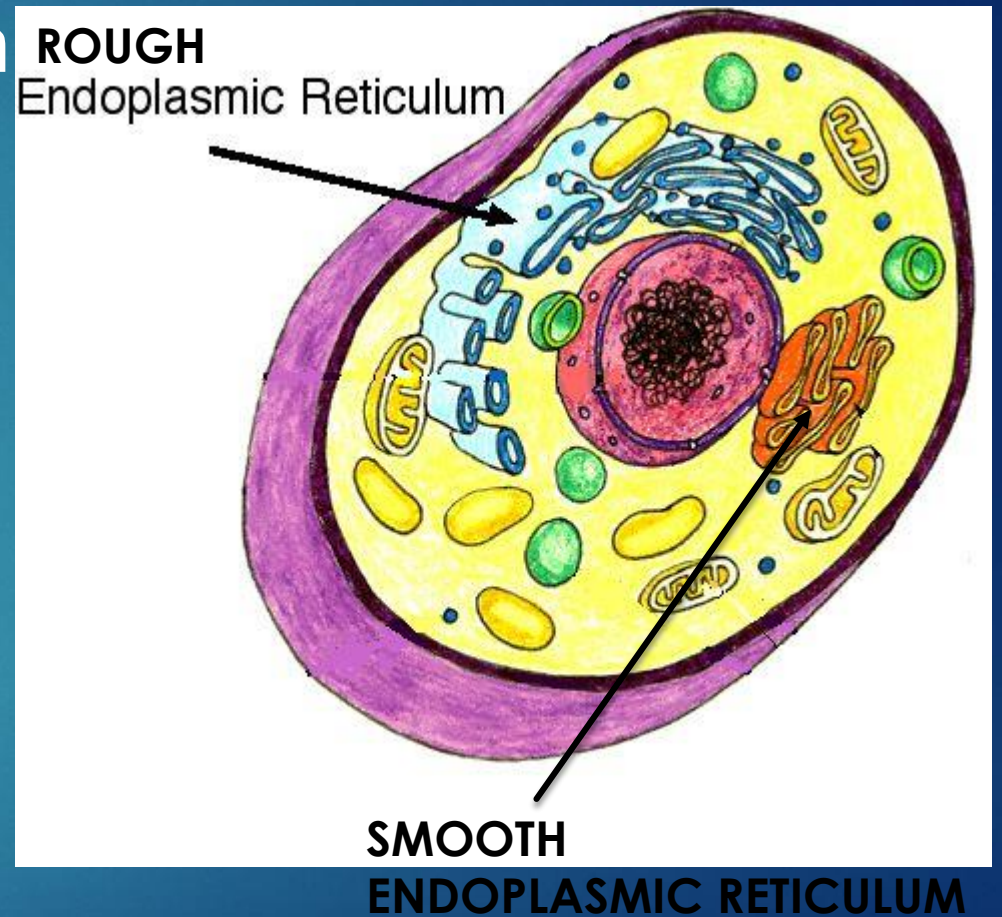


- ▶ These tiny structures are found floating throughout the cytoplasm or embedded on the endoplasmic reticulum (which is why it gets called the “rough endoplasmic reticulum”)
- ▶ **They produce proteins** based on the instructions in our DNA/RNA
- ▶ Like a
  - ▶ Factory



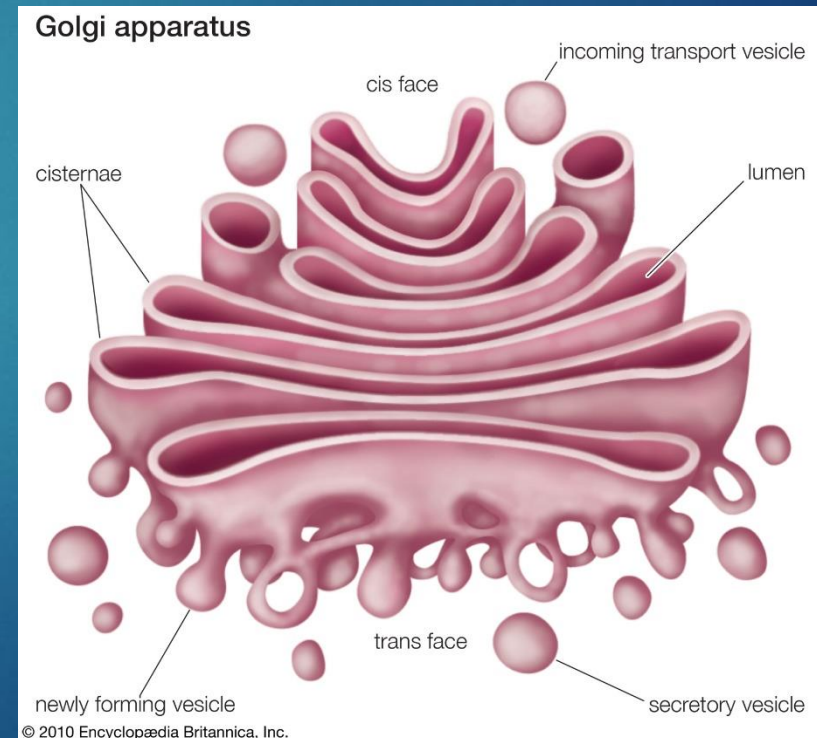
# Endoplasmic Reticulum:

- ▶ There are two types:
  - ▶ 1. **Smooth endoplasmic reticulum** (Smooth ER) **makes and transports lipids**. Many chemical reactions take place on the smooth ER
  - ▶ 2. **Rough endoplasmic reticulum** (Rough ER) gets its name because it has ribosomes on its surface. **Proteins are produced and transported here**
- ▶ Like
  - ▶ A road



# Golgi Apparatus:

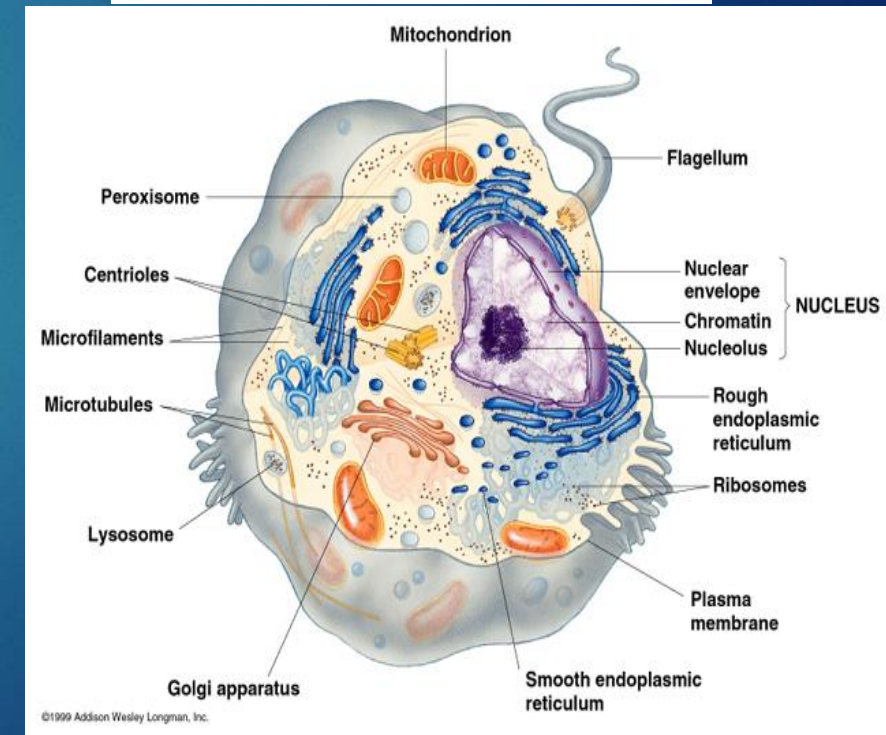
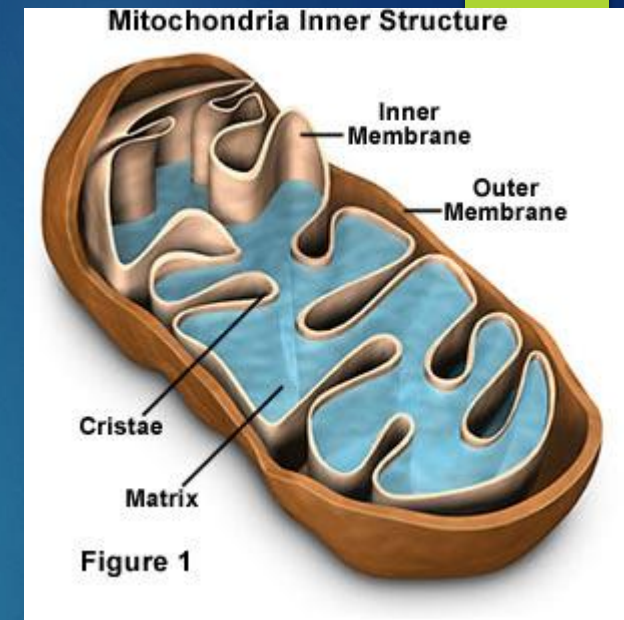
- ▶ This large organelle looks like a series of flattened pancakes.
- ▶ It has a lot of jobs because it **receives, sorts, packages and transports all of the larger molecules in the cell.**
- ▶ Like
  - ▶ A post office
  - ▶ Fed Ex, UPS





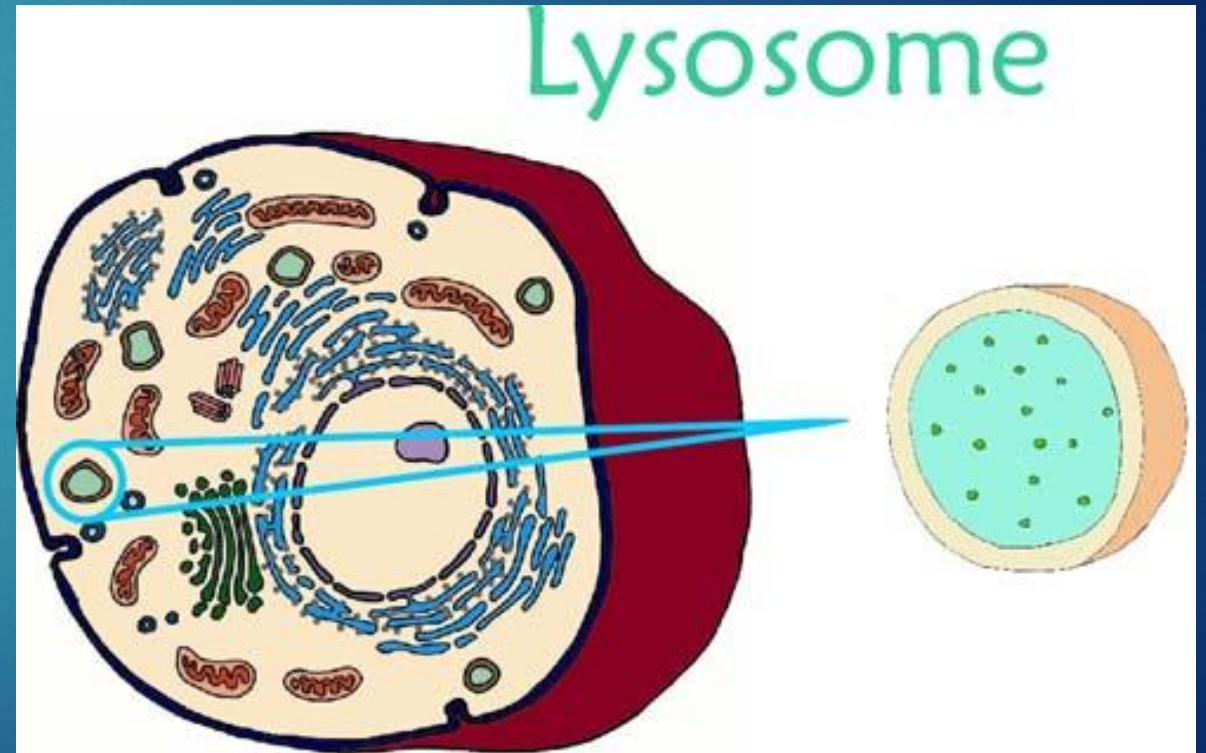
# Mitochondria:

- ▶ These organelles are easy to spot (often compared to orange slices) and have a huge job in the cell: **they make all the energy (ATP)** that an organism needs to survive.
- ▶ This is the site of cellular respiration (where our sugars, proteins and fats are broken down into energy)
- ▶ Like
  - ▶ A powerplant, a Solar panel
  - ▶ Wind mill



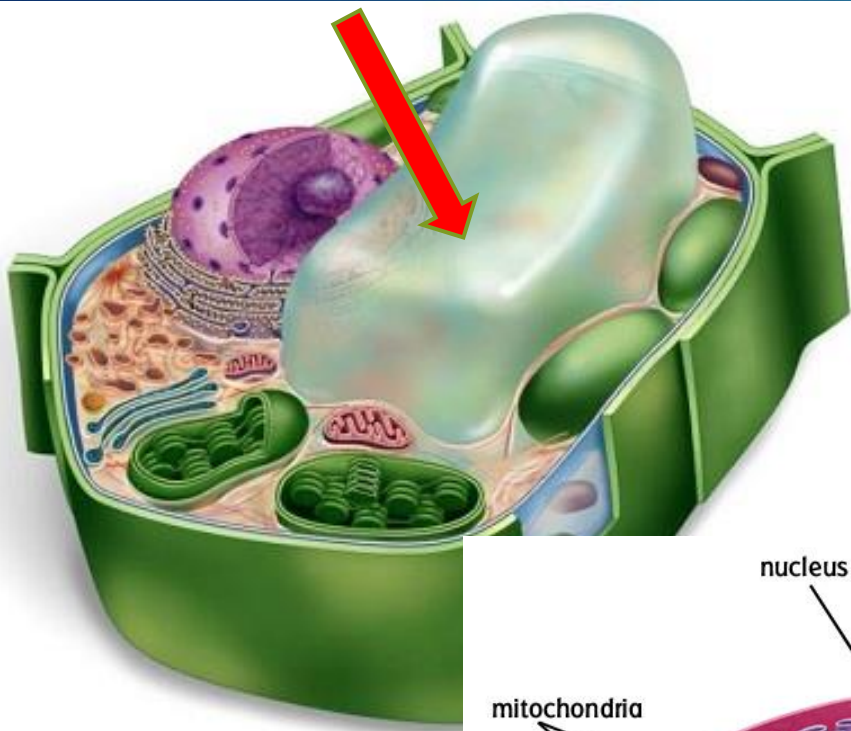
# Lysosomes:

- ▶ Digest unwanted materials in the cell
- ▶ Like
  - ▶ Recycle Factory
  - ▶ Garbage Man
  - ▶ Dump





# Vacuole:

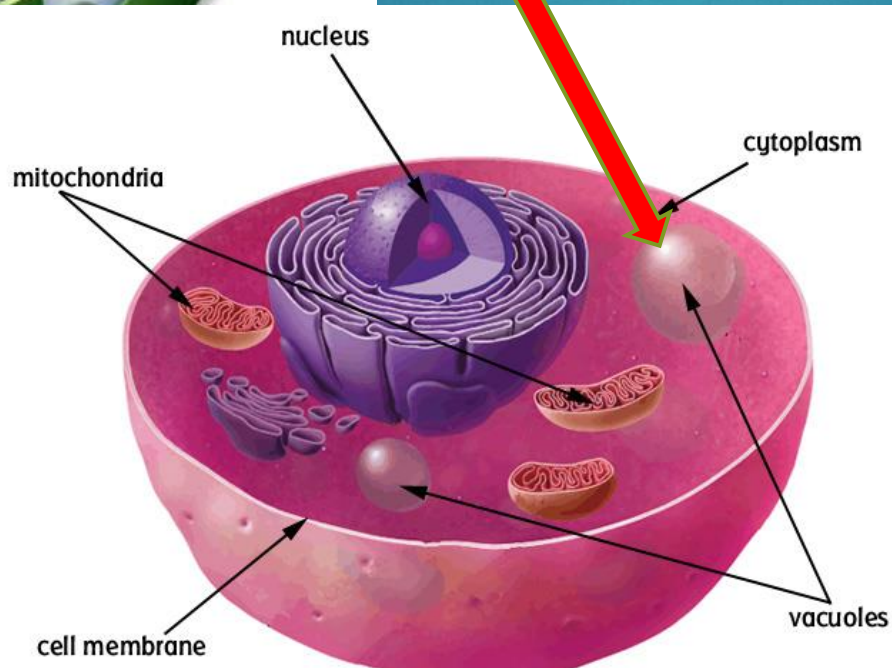


- ▶ Stores nutrients, water and wastes.
- ▶ IN plant cells, the vacuoles tend to be rather large while in animal cells, they are relatively small.

▶ Like a

▶ Suitcase

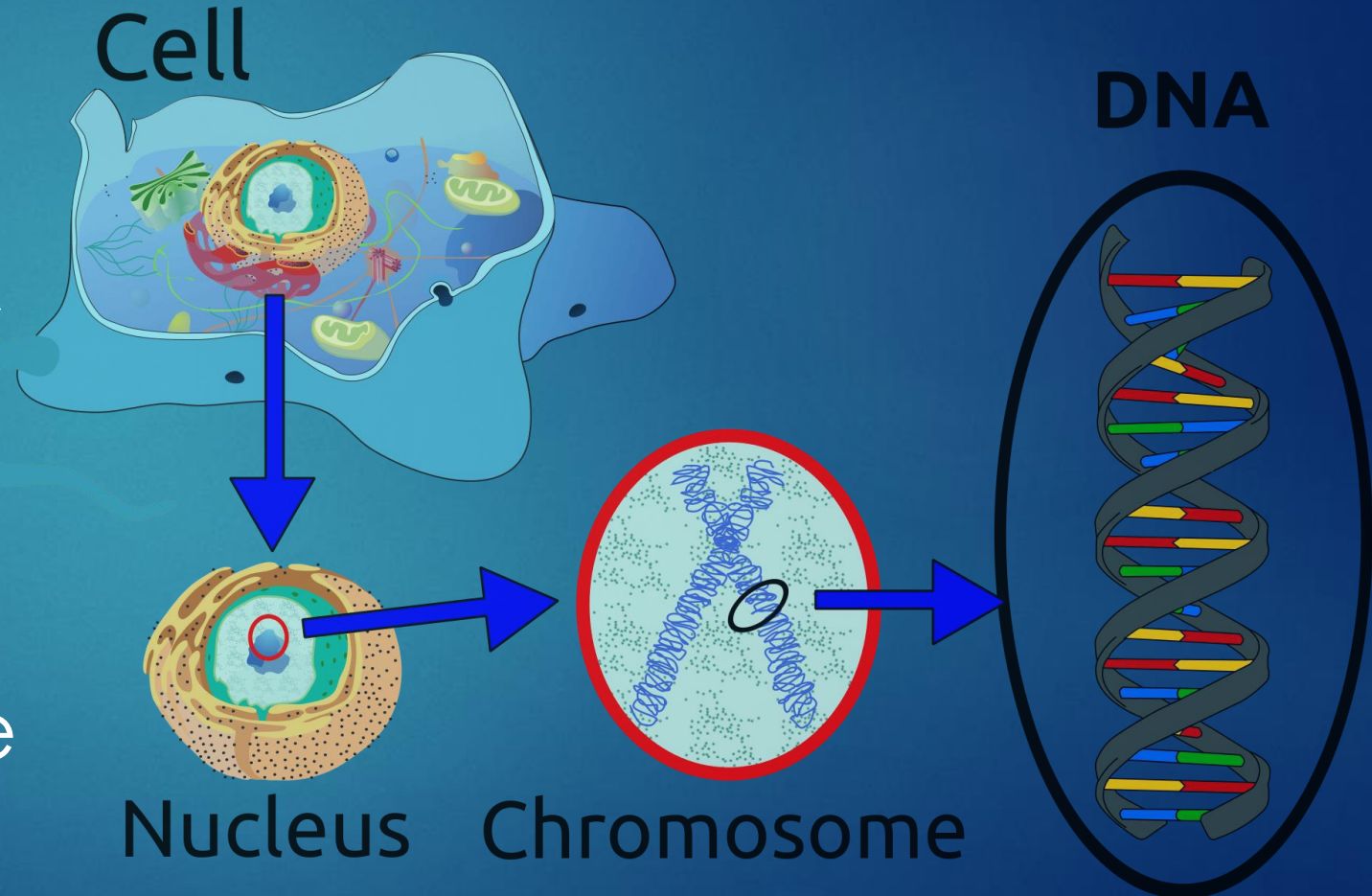
▶ Storage shed





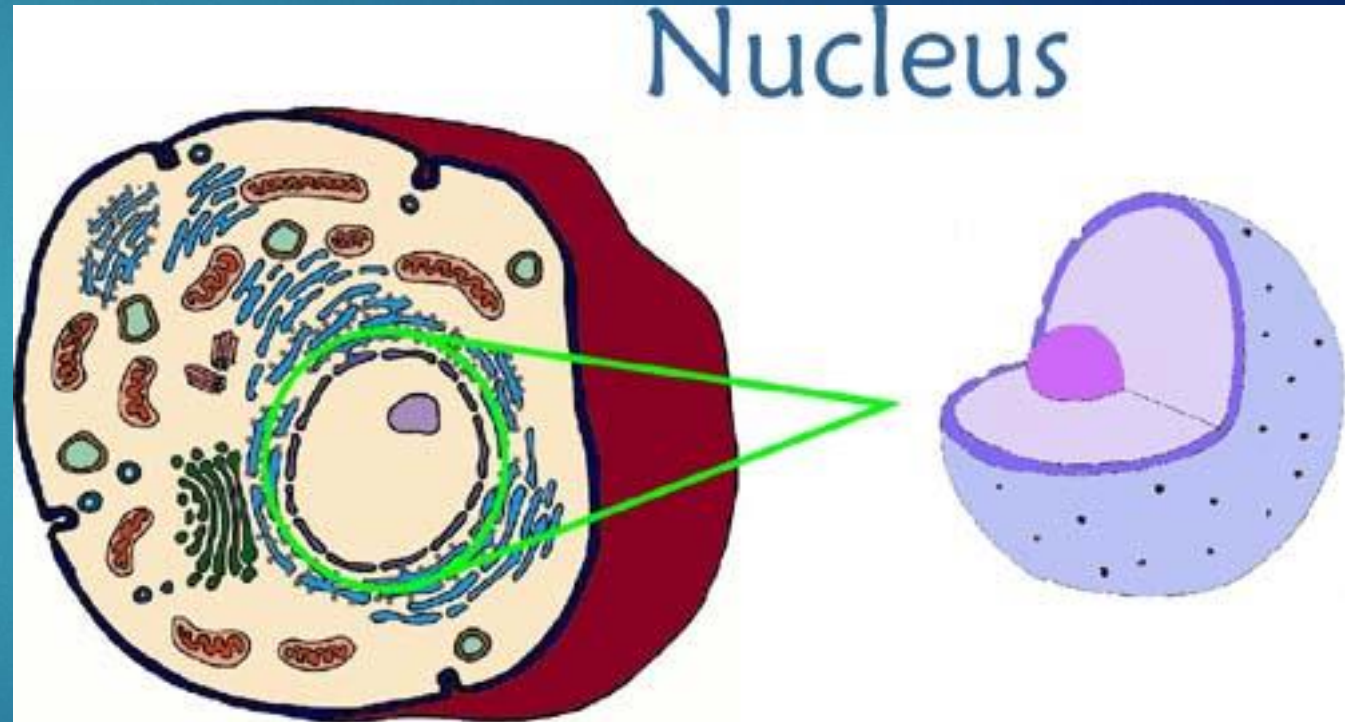
# Chromatin/Chromosomes

- ▶ Found in the nucleus
- ▶ **DNA/Genetic information**
- ▶ **Instructions for the cell, tells the cell what to do!**
- ▶ Like
  - ▶ Blueprints for a house
  - ▶ Instructions for a game



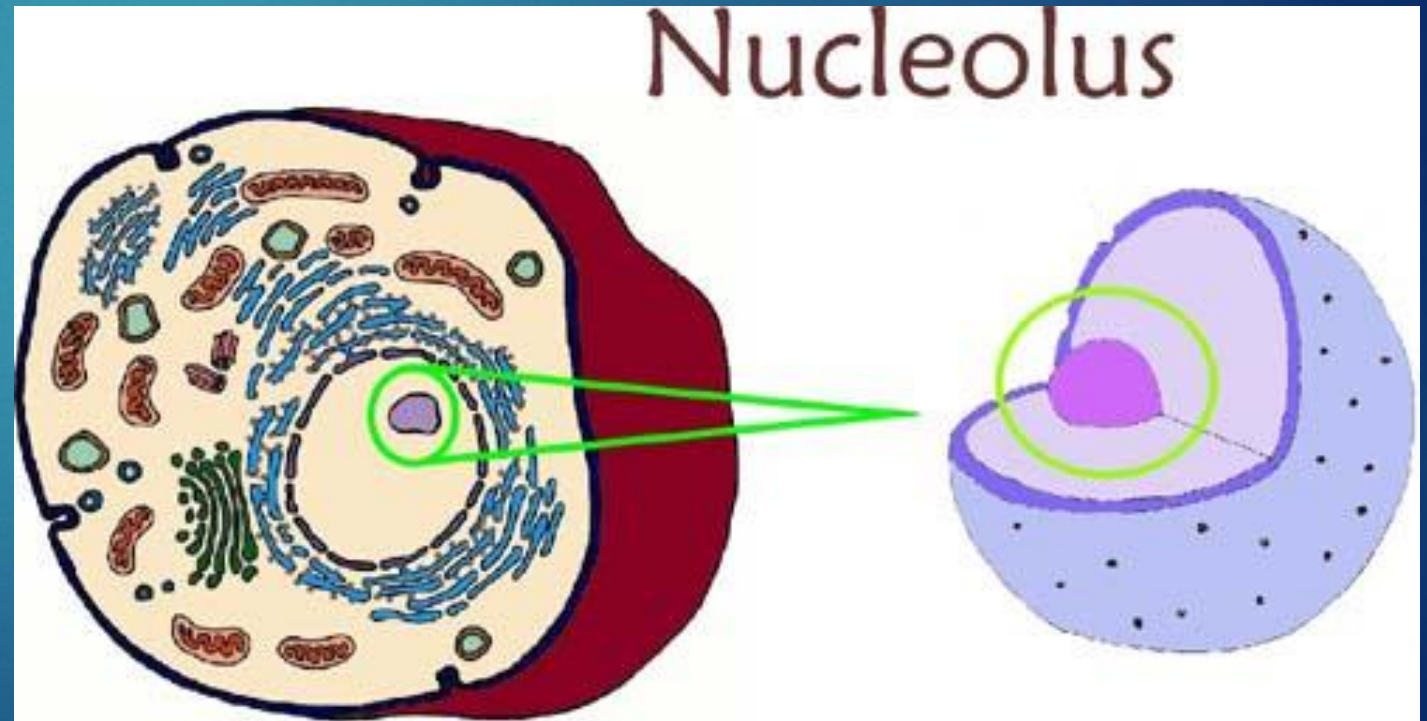
# Nucleus:

- ▶ Controls the functions of the cell, contains DNA
- ▶ Like
  - ▶ A Mayor controls a city
  - ▶ The brain controls the body



# Nucleolus (inside the nucleus):

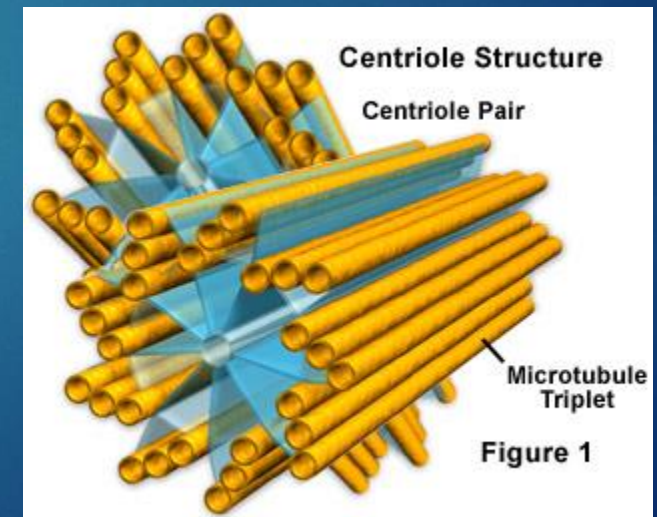
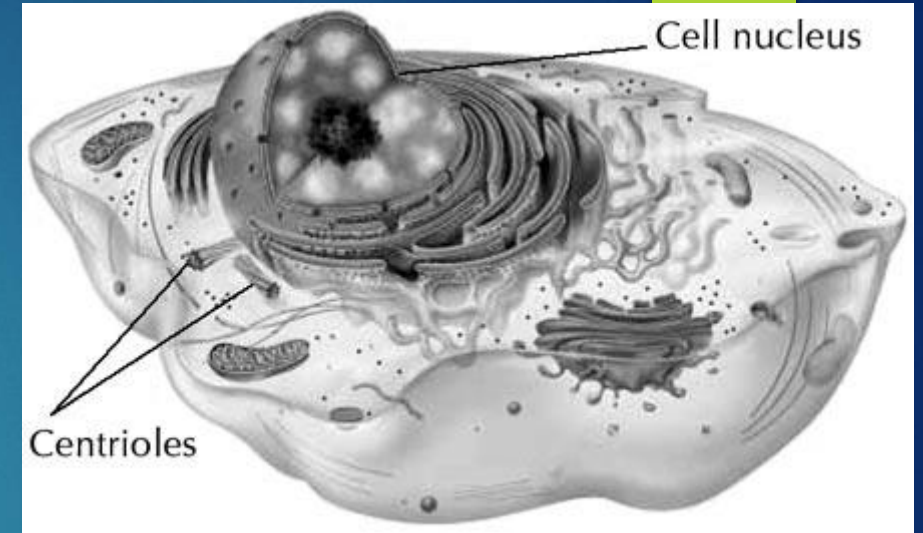
- ▶ Found inside the nucleus
- ▶ Where **ribosomes are produced**





# Centriole:

- ▶ Only found in **animal** cells and **helps with cell division** (before a cell dies, it divides into two)
- ▶ Like
  - ▶ Scissors
  - ▶ A knife or saw



# Flagella/Cilia:

- ▶ These organelles are only found in **animal cells**
- ▶ They aid in locomotion and help move things past the cell
- ▶ Cilia are short structures that work like oars
- ▶ Flagella are long and work like propellers
- ▶ Like
  - ▶ Car, legs

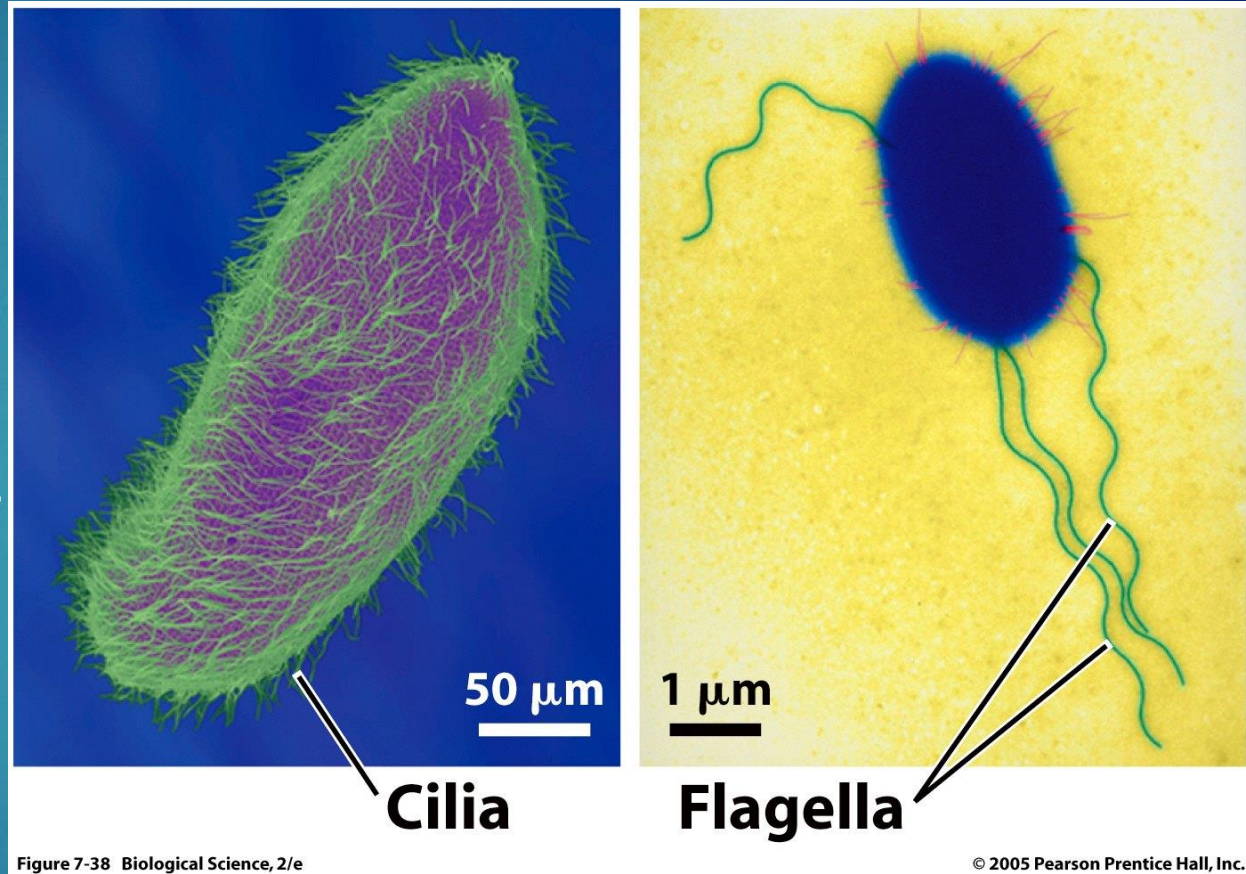
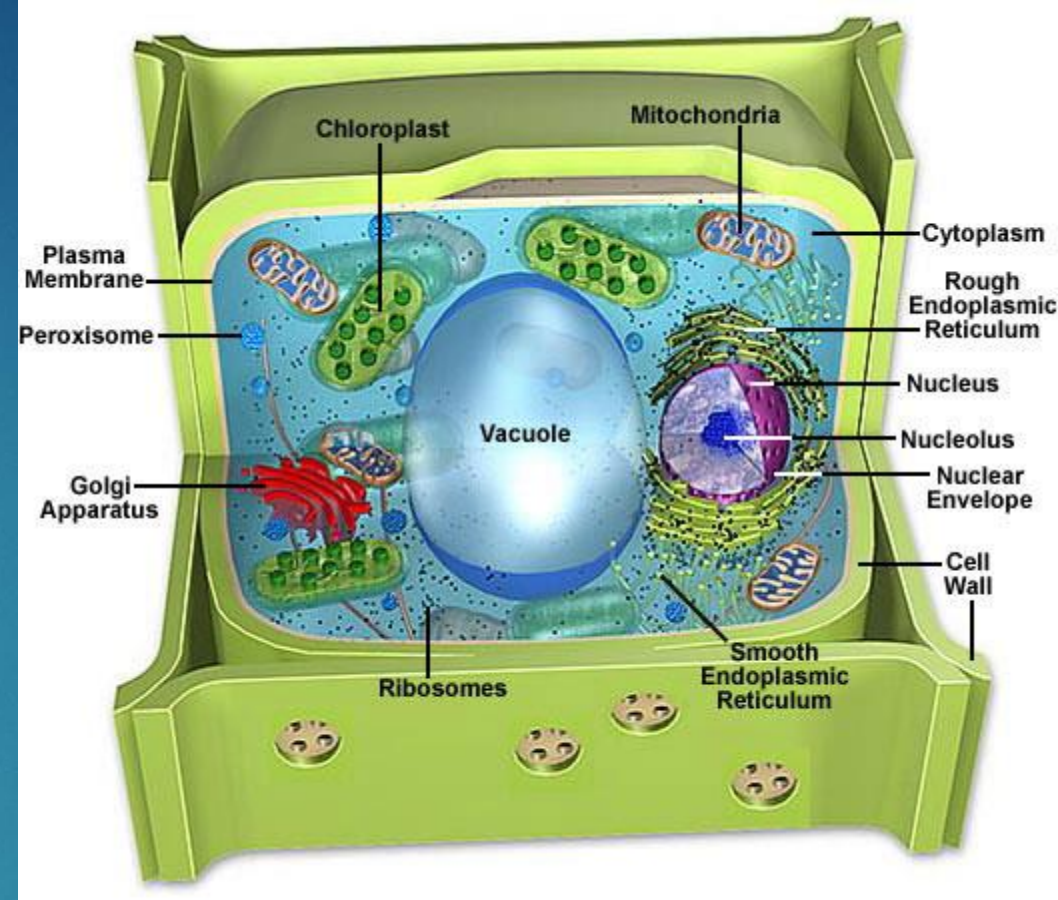


Figure 7-38 Biological Science, 2/e



# Cell Wall:

- ▶ This is only found in **plant** cells. It gives the cell **support and structure** and allows the cell to contract and expand with various water levels.
- ▶ Like
  - ▶ Skeleton
  - ▶ Police, army





# Chloroplasts:

- ▶ This organelle is only found in **plant** cells. It is the site where **photosynthesis occurs** (sugar is made).
- ▶ Like a
  - ▶ kitchen
  - ▶ restaurant

